

**3.** Two aspirin-making devices are set to make tablets containing 0.35 gram of aspirin. The actual amounts in 8 tablets from each device are shown. Use a spreadsheet to determine which device has less variability.

	Amoun	is of Asp	rinin Tal	lets Mad	e by Devi	ce A (g)	
0.353	0.351	0.350	0.352	0.349	0.348	0.350	0.346

	Amoun	ts of Asp	irin in Tat	lets Mad	e by Devi	ce B(g)	
0.349	0.341	0.347	0.358	0.359	0.354	0.339	0.343



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## **Guided Practice**

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1. A bus route takes about 45 minutes. The company's goal is a MAD of less than 0.5 minute. One driver's times for 9 runs of the route are shown. Did the bus driver meet the goal? (Explore Activity and Example 1)

		limes t	o)(CO/ <b>n):</b>	lete Br	skout	e(min)		
44.2	44.9	46.1	45.8	44.7	45.2	45.1	45.3	44.6

- a. Calculate the mean of the bus times.
- **b.** Calculate the MAD to the nearest tenth.

The bus driver **did/did not** meet the company's goal.

2. Below are a different driver's times on the same route. Find the mean and the MAD using a spreadsheet. Enter the data values into row 1 using cells A to I. Enter "mean = " into cell A2 and "MAD = " into cell A3. (Example 2)

44.4	43.0	45.0	45.0	444	45.0	440	440	450
44.4	43.8	45.6	45.9	44.1	45.6	44.0	44.9	45.8

The mean is \_\_\_\_\_ minutes, and the MAD is \_\_\_\_ minutes.

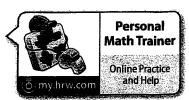
This time, the bus driver **did/did not** meet the company's goal.

## **ESSENTIAL QUESTION**

**3.** What is the mean absolute deviation and what does it tell you about data sets?

## 16.2 Independent Practice





Frank wants to know how many people live in each household in his town. He conducts a random survey of 10 people and asks how many people live in their household. His results are shown in the table.

•			Nu	mber o	f Peopl	e per H	ouseho	id		
	1	6	2	4	4	3	5	5	2	8

- 4. Calculate the mean number of people per household.
- 5. Calculate the MAD of the number of people per household. \_\_\_\_\_
- **6.** What conclusions can you draw about the "typical" number of people in each household? Explain.

Each yogurt treat served at a shop must be the same size. A new worker spends his first week on the job learning to serve the correct amount. The tables show the sizes of 10 yogurt treats the worker served at the beginning of his first week, and of 10 yogurt treats he served at the end of his first week.

	Ser	ving Si	zes, in	Grams,	at Begi	nning	of Weel	ći	
76	81	85	79	89	86	84	80	88	79

		Servin	g Sizes,	in Gran	ns, at E	nd of V	Veek 1		
79	82	84	81	77	85	82	80	78	83

- **7.** Calculate the MADs for the two tables. Did the worker's ability to serve same-sized yogurt treats improve? Explain.
- 8. What If? What would it mean if the serving sizes had a MAD of 0?